

WE CLAIM:

1. A method for computer networking, comprising:
  - receiving a request for a web resource from a remote client;
  - obtaining an original web resource corresponding to the requested web

5 resource;

  - processing at least a portion of the original web resource to form a size-optimized web resource having a smaller file size than the original web resource;
  - sending the size-optimized web resource to the remote client; and
  - sending at least the portion of the original web resource that was size-optimized to the remote client in an original, unmodified state.

10 2. The method of claim 1, wherein the web resource is image data.

15 3. The method of claim 2, further comprising, determining an optimum image data format for the image data.

20 4. The method of claim 3, further comprising determining a browser-interpretable file format and selecting the optimum image data format based at least in part on the browser interpretable file format.

5. The method of claim 3, further comprising determining an image parameter and selecting the optimum image data format based at least in part on the  
5 image parameter.

6. The method of claim 5, wherein the image parameter is selected from the group consisting of number of colors, similarity of colors, and file size.

7. The method of claim 3, further comprising modifying the original image data format to the optimum data format.

8. The method of claim 2, wherein processing at least the portion of the original web resource includes creating a smaller version of the image data.

20 9. The method of claim 8, wherein creating a smaller version of the image data includes reducing the quality parameter in image data in JPEG format.

10. The method of claim 8, wherein creating a smaller version of the image data includes reducing the number of colors in image data in GIF format.

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11. The method of claim 8, wherein the image data is animated.

12. The method of claim 11, wherein creating a smaller version of the animated image data includes extracting a frame of the animated image data.

13. The method of claim 12, wherein the extracted frame is in GIF format, and creating a smaller version includes reducing the number of colors of the first frame.

14. The method of claim 8, wherein after creating the smaller version of the image data, the smaller version of the image data is cached.

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15. The method of claim 1, further comprising instructing the remote client to request the original, unmodified web resource.

5 16. The method of claim 1, wherein instructing the remote client to request the original, unmodified web resource is accomplished by rewriting web page source data to include a hyperlink to the original, unmodified web resource.

10 17. The method of claim 1, wherein the web resource is web page source data.

15 18. The method of claim 17, wherein processing at least a portion of the original web resource includes filtering web page source data thereby creating modified web page source data, smaller in size.

20 19. The method of claim 18, wherein the web page source data includes non-renderable data, and filtering includes filtering at least a portion of the non-renderable data from the web page source data.

20. The method of claim 19, where in the non-renderable data is selected from the group consisting of whitespace, comments, hard returns, keywords, meta tags and commands not interpretable by the remote client.

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21. The method of claim 20, wherein filtering the web page source data includes filtering tags by rewriting tags in lowercase letters.

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22. The method of claim 21, wherein after creating the modified web page source data, the modified web page source data is cached.

23. The method of claim 1, wherein receiving a request for a web resource from a remote client includes receiving a request from a remote client browser via a computer network.

20 24. The method of claim 23, wherein the computer network is a WAN.

25. The method of claim 24, wherein WAN is the Internet.

26. The method of claim 25, wherein obtaining original web resource  
5 corresponding to the requested web resource includes requesting and receiving the  
original web resource from a web server.

27. The method of claim 26, wherein original web resource is received  
from the web server via a LAN.

28. The method of claim 27, wherein obtaining the original web  
resource corresponding to the requested web resource includes retrieving the original web  
resource from a cache.

29. The method of claim 1, wherein processing at least the portion of the  
original web resource includes compressing the web resource in real-time.

30. The method of claim 29, further comprising, detecting a browser-interpretable data format and selecting a compression algorithm based on the detected browser-interpretable data format.

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31. The method of claim 29, where compressing the web resource includes compressing using the GZIP compression algorithm.

32. The method of claim 29, where compressing the web resource includes compressing using the DEFLATE compression algorithm.

33. A method for use in computer networking, the method comprising:  
receiving a request for a web resource from a remote client, the web  
resource containing renderable and non-renderable data;  
filtering at least a portion of the non-renderable data from the requested  
web resource, thereby creating a modified web resource; and  
sending the modified web resource to the remote client.

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34. The method of claim 33, wherein the remote client includes a browser and the non-renderable data is not renderable by the browser.

5 36. The method of claim 33, wherein the web resource is image data.

35. The method of claim 33, wherein the web resource is web page source data.

37. The method of claim 35, wherein the filtered portion of the non-renderable data includes whitespace.

38. The method of claim 35, wherein the filtered portion of the non-renderable data includes comments.

20 39. The method of claim 35, wherein the filtered portion of the non-renderable data includes hard returns.

40. The method of claim 35, wherein the filtered portion of the non-renderable data includes meta tags.

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41. The method of claim 35, wherein the filtered portion of the non-renderable data includes keywords configured to be interpreted by a search engine.

42. The method of claim 35, wherein filtering further includes filtering tags of the web page source data by rewriting the tags in lowercase.

43. The method of claim 35, wherein filtering includes filtering renderable data that the remote client is not configured to interpret.

44. The method of claim 43, further comprising detecting a browser type of a browser executed on the remote client, determining an HTML tag that the browser is not configured to interpret, and filtering the non-interpretable HTML tag.

45. The method of claim 35, further comprising, filtering a portion of the renderable data from the web page source data, and replacing the portion of the renderable data with substitute renderable data smaller in size and renderably equivalent to the replaced renderable data.

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46. The method of claim 35, wherein the substitute renderable data includes a stylesheet.

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47. The method of claim 33, further comprising, sending an original, unfiltered version of the requested web resource to the remote client.

48. The method of claim 47, wherein the original, unfiltered version of the requested web resource is sent to the remote client in response to a subsequent request from the remote client for the original, unfiltered version.

20 49. The method of claim 33, further comprising, compressing the modified web resource before sending it to the remote client.

50. The method of claim 49, wherein the modified web resource is compressed using loss-less compression.

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51. A method for use in computer networking, the method comprising:  
receiving a request for a web resource from a remote client;  
in real-time, creating a modified web resource based on the requested web resource, the modified web resource being smaller in size than the requested web resource; and  
sending the modified web resource to the remote client.

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52. The method of claim 51, wherein the request is received at an acceleration device.

53. The method of claim 51, wherein the acceleration device is linked to an associated web server via a LAN, the method further comprising, before creating the modified web resource, transferring the web resource from the web server to the proxy server.

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54. The method of claim 51, wherein the web resource is web page source data.

55. The method of claim 51, wherein the web resource is image data.

56. The method of claim 51, further comprising, sending an original, unmodified version of the requested web resource to the remote client.

57. The method of claim 51, wherein the original, unmodified version of the requested web page resource is sent to the remote client in response to a subsequent request from the remote client for the original, unmodified version.

58. A networking device for use on a computer network having a web server and a remote client, wherein the remote client is configured to download a web resource from the web server via the computer network, the device comprising, a controller configured to receive a request for the web resource from the remote client, 5 and in response, obtain the requested web resource from the web server, and in real-time, accelerate transmission of the web resource from the web server to the remote client via the computer network.

59. The networking device of claim 58, wherein the controller includes a network communications program logic stored on an ASIC.

60. The networking device of claim 58, wherein the controller includes a CPU coupled to a memory, and a network communications program stored in memory and executable by the CPU.

61. The networking device of claim 58, wherein the requested web resource includes web page source data containing non-renderable data, and the controller is configured to filter out at least a portion of the non-renderable data, thereby accelerating the transmission of the web page source data to the remote client via the computer network.

62. The networking device of claim 61, wherein the controller is further configured to send an original, unfiltered version of the web page source data to the remote client, after sending the filtered web page source data to the remote client.

63. The networking device of claim 62, wherein the requested web resource includes image data, and the controller is configured to create a smaller version of the image data, thereby accelerating the transmission of the web resource to the remote client via the computer network.

64. The networking device of claim 63, wherein the controller is further configured to send an original, unmodified version of the image data to the remote client, after sending the smaller version of the image data to the remote client.

65. A system for use in computer networking, the system comprising:  
a computer network;  
a web server;  
5 a remote client configured to download a web resource from the web server  
via the computer network; and  
an acceleration device positioned intermediate the web server and the  
remote client on the computer network, the acceleration device being configured to  
accelerate transmission of the web resource from the web server to the remote client.

66. The system of claim 65, wherein the acceleration device is  
configured to receive a request for requested web resource from the remote client and is  
further configured to obtain the requested web resource from the web server or a cache.

67. The system of claim 65, wherein the web server and the acceleration  
device are connected via a LAN.

68. The system of claim 65, wherein the computer network is a WAN.

69. The system of claim 67, wherein WAN is the Internet.

5 70. The system of claim 65, wherein the remote client includes a web  
browser configured to download web resource from the web server.

40 71. The system of claim 65, wherein the acceleration device is  
configured to accelerate transmission by processing at least a portion of the original web  
resource to form a size-optimized web resource having a smaller file size than the  
original web resource.

5 72. The system of claim 71, wherein at least a portion of the original  
web resource is image data.

20 73. The system of claim 72, wherein the acceleration device is further  
configured to determine an optimum image data format for the image data.

74. The system of claim 73, wherein the acceleration device is further configured to determine a browser-interpretable file format and select the optimum image data format based at least in part on the browser interpretable file format.

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75. The system of claim 73, wherein the acceleration device is further configured to determine an image parameter and select the optimum image data format based at least in part on the image parameter.

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76. The system of claim 75, wherein the image parameter is selected from the group consisting of number of colors, similarity of colors, and file size of the image data.

77. The system of claim 73, wherein the acceleration device is further configured to modify the original image data format to the optimum data format.

20 78. The system of claim 72, wherein the acceleration device is further configured to form the size-optimized web resource by creating a smaller version of the image data.

79. The system of claim 78, wherein the image data is a JPEG file and the acceleration device is configured to reduce a quality parameter of the JPEG file.

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80. The system of claim 78, wherein the image data is a GIF file and the acceleration device is configured to reduce a number of colors of the GIF file.

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81. The system of claim 78, wherein the image is animated and the acceleration device is configured to extract a frame from the animated image data.

82. The system of claim 81, wherein the extracted frame is a first frame of the animated image data.

83. The system of claim 82, wherein the animated image data is an  
20 animated GIF image and the acceleration device is configured to create the smaller  
version of the animated image data by a reduction of the number of colors in the first  
frame.

84. The system of claim 78, wherein the acceleration device is configured to cache the smaller version of the image data.

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85. The system of claim 78, wherein the acceleration device is configured to send an original, unmodified version of the image data to the remote client, after sending the smaller version of the image data to the remote client.

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86. The system of claim 71, wherein at least a portion of the web resource is web page source data, the web page source data containing renderable data and non-renderable data.

87. The system of claim 81, wherein the acceleration device is configured to filter at least a portion of the non-renderable data, thereby creating modified web page source data, smaller in size than the original web page source data.

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88. The system of claim 87, wherein the filtered portion of the non-renderable data includes whitespace.

5 89. The system of claim 87, wherein the filtered portion of the non-renderable data includes comments.

10 90. The system of claim 87, wherein the filtered portion of the non-renderable data includes hard returns.

15 91. The system of claim 87, wherein the filtered portion of the non-renderable data includes meta tags.

20 92. The system of claim 87, wherein the filtered portion of the non-renderable data includes keywords configured to be interpreted by a search engine.

93. The system of claim 87, wherein the acceleration device is configured to filter tags by rewriting tags of the web page source data in lowercase letters.

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94. The system of claim 87, wherein the acceleration device is configured to cache the modified web page source data.

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95. The system of claim 87, wherein the acceleration device is configured to send an original, unmodified version of the web page source data to the remote client, after sending the modified web page source data to the remote client.

96. The system of claim 65, wherein the acceleration device is configured to compress the web resource in real-time before transmission to the remote client.

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97. A device for use in transferring data over a computer network, wherein the computer network connects a web server to a browser executed by a remote client, the device comprising, a controller configured to execute a communication program, the communication program being configured to receive a request for a web resource from the remote client, obtain the web resource from the web server, compress the web resource in real time, and send the compressed web resource to the remote client.

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98. The device of claim 97, wherein the communication program is configured to read the request for the web resource and determine a browser-interpretable compression format.

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99. The device of claim 98, wherein the controller is configured to compress the web resource using the browser-interpretable compression format.

100. The device of claim 97, further comprising a network interface linked to the controller.

101. The device of claim 100, wherein the network interface is configured to connect to the web server via a LAN.

5 102. The device of claim 100, wherein the network interface is configured to connect to the remote client via a WAN.